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ABSTRACT

Developmental differences in attitudes toward physically disabled individuals were measured with an instrument requiring spontaneous responding and utilizing a systematic scoring taxonomy. Additionally, relations between attitudes, moral judgment development, and belief in a just world were explored. Forty high school freshmen and 40 seniors as well as 40 undergraduate college students read brief descriptions of individuals with a physical or sensory disability, rated each hypothetical individual on a series of items, and provided reasons for each rating. When reasons were scored for presence of devaluing responses, the three age groups did not differ in amount of devaluing. Within age groups, moral judgment scores (Defining Issues Test), scores on the Just World Scale, and scores on the Attitudes toward Disabled Persons Scale accounted for as much as 33% of the total variation in devaluing responses. The main effect for narrative (handicapping condition) was highly significant. (Author/CL)

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Devaluation of Individuals with a Physical or Sensory Disability: Development and Social Cognitive and Social Psychological Variables

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Running head: ATTITUDES TOWARD THE PHYSICALLY DISABLED

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Abstract

Using objective measures, researchers have reported developmental trends in attitudes toward the physically disabled (Ryan, 1981; Yuker, Block, & Younng, 1970). In the present study, developmental differences in attitudes were assessed with a measure that requires more spontaneous responding and that utilizes a systemacic scoring taxonomy. Additionally, relations between attitudes, moral judgment development, and belief in a just world were explored. Participants read brief descriptions of individuals with a physical or sensory disability, rated each hypothetical individual on a series of items, and provided reasons for each rating. When reasons were scored for presence of devaluing responses, three age groups (grades 9, 12, and college students) did not differ in amount of devaluing. Within age groups, moral judgment scores (Defining Issues Test), scores on the Just World Scale, and scores on the Attitudes Toward Disabled Persons Scale accounted for as much as 32% of the total variation in devaluing responses. The main effect for narrative (handicapping condition) was highly significant.

Devaluation or Individuals with a Physical or Sensory Disability: Development and Social Cognitive and Social Psychological Variables

The purposes of this study were to investigate developmental differences in attitudes toward the physically disabled and to examine relationships between such attitudes and selected social cognitive and social psychological variables. There is substantial recent documentation of the pervasiveness of negative attitudes held by the nondisabled toward the disabled in our society (Cohen, 1977; Nelson, 1978; Weinberg, 1976). Investigation of the development of attitudes toward the physically disabled affects a number of socially important decisions. For example, developmental data would have an impact on when various forms of integrated activities are most effective for individuals with disabilities. Additionally, intervention strategies appropriate to different developmental levels could be selected to minimize devaluation of individuals with disabilities. However, before such decisions can be influenced by information about developmental differences in attitudes a much more comprehensive data base must be gathered.

Data from attitudinal measures employing objective item formats indicate that attitudes toward the physically disabled increase in favorability from late adolescence to young adulthood (Ryan, 1981; Yuker, Block, & Younng, 1970). This trend in favorability was

especially apparent in college students (Ryan, 1981). By utilizing objective formats, researchers, for the most part, have obtained general knowledge about attitudes toward the handicapped as a group. Such data, by their very nature only inform us about responses to a limited set of prespecified alternatives, and provide no information about the development of attitudes toward individuals with specific handicaps.

In the present study, an effort was made to obtain meaningful new information about attitudes toward the physically disabled by utilizing a format that allows subjects to generate their own responses. Developmental differences in attitudes were assessed with the Devaluation Questionnaire (Petersen, 1983a), a measure that elicits ratings and rationales from subjects and utilizes a reliable scoring taxonomy. This measure consists of three descriptions of individuals who acquired a physical or sensory handicap through accident or disease. Subjects rated each described individual on a series of 6 items and wrote a rationale for each rating. Rationales were scored for presence of devaluing responses, i.e., responses which set unwarranted limitations on individuals with a handicap. Devaluing responses included those indicating that a handicap encompassed other abilities, personality characteristics, or interests, and those indicating reactions of fear, pity, or curiosity toward the person because of the handicap (Petersen, 1983b).

In addition to using a new attitudinal measure with a subjective response format, relationships between relevant psychological variables and devaluing responses were explored. The second major purpose of this study involved assessment of the extent to which clear patterns of significant relationships emerged between devaluing responses and selected social cognitive and social psychological variables.

First, a social cognitive variable, moral judgment development, was predicted to relate to extent of devaluing responses. Moral judgment development, the development of concepts of fairness, has been portrayed as occurring in six different stages, with level of moral reasoning being positively correlated with age and intelligence, and, in adults, with higher education (Colby, Kohlberg, Gibbs, & Lieberman, 1983; Kohlberg, 1976; Rest, 1979a). Both Colby, Gibbs, Kohlberg, Speicher-Dubin, Power, and Candee's (1980) and Rest's (1974) moral judgment measures present various complex moral dilemmas to subjects. Both measures regard the standards which govern human cooperation, given or agreed upon by the subject, to be the critical factor in determining level of moral judgment development. While the measure described by Colby et al. (1980) requires subjects to produce spontaneous responses so that qualitative stage categorizations can be made, Rest's (1974) Defining Issues Test (D.I.T.) requires subjects to rate and rank various moral issues.

The P index for the D.I.T. is calculated from a subject's rankings and represents the relative importance given to principles of justice in construing complex ethical dilemmas. These principles include societal consensus and nonarbitrary social cooperation, principles characteristic of postconventional moral reasoning (Rest, 1979a).

Certain subjective role-taking abilities are prerequisite to the various levels of moral reasoning (Rest, 1983). Such abilities are especially relevant to the distinction between advanced conventional moral reasoning (Stage Four) and postconventional or principled moral reasoning (Stages Five and Six). One of the distinctive features of principled moral reasoning as opposed to advanced conventional moral reasoning is that the reference group for fairness decisions is not restricted to a particular group or to a particular society. That is, individuals at Stages Five and Six may hold moral values and principles apart from the authority of a group and apart from their own identification with a group (Kohlberg, 1976). In contrast, individuals whose reasoning is predominantly Stage Four recognize a group's subjective perspective, but this recognition is limited to "duty-oriented" tendency to uphold their particular group's perspective (Kohlberg, 1976). Because persons who reason at the principled level of morality focus upon relativity of and discrepancies between perspectives

held by individuals and social groups, they may devalue those with a physical or sensory handicap to a lesser extent than individuals who less consistently endorse reasoning at the principled level.

In addition to moral reasoning development, the extent to which one believes in a just world may predict frequency of devaluing of individuals with disabilities. Belief in a just world, a social psychological variable, is defined as thinking that the world is a place where people get what they deserve and deserve what they get (Lerner, 1977, 1980; Lerner & Miller, 1978; Rubin & Peplau, 1973, 1975). Inherent in this belief is a perceived fit between a person's character and actions on the one hand, and a person's fate, outcome, or situation on the other.

In a series of studies, Lerner and his associates investigated belief in a just world by focusing on observers' reactions to innocent victims in various experimental situations. That is, a victim suffered from some type of punishment, such as electric shocks, or from other circumstances beyond his or her control, such as poverty (summarized in Lerner, 1980, and Lerner & Miller, 1978). Innocent victims pose a threat to belief in a just world. To restore justice and maintain a fit between a person's character and actions on the one hand, and a person's outcome or fate on the other, observers compensated a victim by engaging in various altruistic behaviors (Miller, 1977). By altering a victim's outcome or fate

through altruistic behaviors, observers perceived that a match existed between the innocent character and the fate of a victim. However, when confronted with the suffering of another, if observers could not compensate a victim in a particular situation, they re-established justice by perceiving the victim as deserving to suffer. If a victim was not seen as deserving to suffer because of behavior, observers perceived a victim as deserving to suffer because of character. In the latter case, devaluing responses were evident when observers rated a victim on various personal characteristics (Lerner, 1977; Lerner & Miller, 1978; Richey & Richey, 1978; Rubin & Peplau, 1973, 1975; Zuckerman, Gerbasi, Kravitz, & Wheeler, 1975).

Observers who perceive innocent victims as deserving of their suffering may be using defensive attributions. Attribution theorists have suggested that self-protective motives and defensive attributions may derive from belief in a just world (Harvey & Smith, 1977; Ross & DiTecco, 1975; Shaver, 1975). Rubin and Peplau (1973) developed the Just World Scale to explore individual differences in belief in a just world. High scorers on the Just World Scale, those who apparently perceive an innocent victim as quite threatening to their beliefs in a just world, devalued a victim most severely (Rubin & Peplau, 1973, 1975, Zuckerman et al., 1975).

Just world research may aid in understanding attitudes toward individuals with a physical or sensory handicap. Individuals who have suffered loss of a physical or sensory ability through accident or disease can be portrayed as innocent victims similar to Lerner's victims. Individuals with a handicap usually cannot be compensated in any way by other persons and usually are not behaviorally responsible for their condition. Therefore, they pose a threat to belief in a just world. Observers confronted with persons with a handicap may re-establish their just world notion by devaluing them. Individuals who believe strongly in a just world may devalue those with a handicap to a greater extent than individuals who do not hold just world beliefs.

The present study was, first, an investigation of developmental differences in the extent to which persons at three ages vary in frequency of producing devaluing responses to individuals with a physical or sensory disability. Second, it was an examination of relationships between devaluing responses and selected social cognitive and social psychological variables. Specifically, relations between performance on a questionnaire measuring devaluing responses and performance on measures of moral judgment development and just world beliefs were explored. Due to the present interest in the endorsement of principled moral reasoning as well as to practical considerations of student time and cost of

scoring responses, Rest's (1974) Defining Issues Test was used. Rubin and Peplau's (1973) Just World Scale was administered to assess individuals' beliefs in a just world.

The following hypotheses were examined: (a) The frequency of devaluing responses to descriptions of individuals (hypothetical) who had suffered loss of physical or sensory ability through accident or disease would be greater among younger than older students. A high school freshmen group would devalue more often than a high school senior group. Seniors, in turn, would devalue more often than a group of college students. (b) The frequency of devaluing responses to hypothetical individuals who had suffered loss of physical or sensory ability through accident or disease would be related negatively to endorsement of principled moral issues on the Defining Issues Test. (c) The frequency of devaluing responses to hypothetical individuals who had suffered loss of physical or sensory ability through accident or disease would be related positively to scores on the Just World Scale.

Method

Subjects

One hundred and twenty students participated in this study. Forty high school freshmen and 40 high school seniors were selected randomly from one high school in a metropolitan suburb in the Southwest. Students came from lower-middle to middle-class families.

Mean ages were 14 years and 17 years, for the freshman and senior high school samples, respectively. A sample of 40 undergraduate students, all of whom had completed at least one year of college, was obtained from a metropolitan western university. These students participated to receive credit in an undergraduate psychology course. Equal numbers of males and females were obtained at each age level.

Measures and Scoring

Devaluation Questionnaire. Devaluing responses were assessed using a questionnaire consisting of separate descriptions of three individuals who had acquired a physical or sensory disability through accident or disease (Petersen, 1983a). In this measure the narratives are intentionally ambiguous, not providing explanations or details about why a particular incident happened to an individual. Each short narrative was followed by a series of six questions. For every question, a rating and a written rationale for each rating were elicited.

Devaluation scores were derived from subjects' stated reasons for making a particular rating response. Each free response was coded on a 0- to 1-point scale with 0 = no devaluing and 1 = devaluing. If a respondent's reasons included more than one type of devaluing for any single question, an additional point was coded for each type. Summary devaluation scores were derived by adding scores from responses across all three narratives.

A systematic scoring taxonomy was utilized to code subjects' free responses (Petersen, 1983b). Six different types of devaluing were possible, three types representing direct devaluing and three types representing more indirect devaluing. Direct devaluing responses put limitations on an individual with a handicap by having the handicap encompass the individual's other: (a) abilities, (b) personality characteristics, or (c) interests. Indirect devaluing responses emphasized reactions of: (a) fear, (b) pity, or (c) curiosity toward an individual with a handicap. Since the questionnaire consisted of 18 questions, with each question eliciting at the most six different types of devaluing responses, the scoring taxonomy yielded a devaluation scale ranging theoretically from 0 to 108 points. However, any one question was expected to elicit a single type of devaluing response, so realistically the devaluation scale ranged from 0 to 18 points.

Also of interest was a scoring category which encompassed generalizations about how non-disabled persons would react to an individual with a physical disability. Such responses, scored as "normative assumptions," included claims that others would devalue as well as generalizations about how others would think about or behave toward an individual with a disability. Each free response was coded on a 0- to 1-point scale with 0 = no normative assumption and 1 = normative assumption, yielding a scale ranging from 0 to 18.

In an attempt to measure the belief in a just world, three of the six questions following each narrative were written intentionally to tap this belief. Respondents were asked how fair it was that a particular disability occurred to an individual or how responsible an individual was for a particular disability happening to him or her. Responses were scored as "just world responses" if the respondent stated that an individual with a handicap or that people in general deserve what has happened to them. Also, responses were scored as "just world responses" if the respondent placed responsibility for a handicapping condition on an individual with a handicap due to certain personality characteristics or actions. Responses which suggested the notion that people get what they deserve, but which did not specifically state the belief in one of the previously mentioned forms, were scored as "marginal just world responses." Each free response to the nine questions pertaining to the belief in a just world was coded on a 0- to 2-point scale with 0 = no just world belief, 1 = marginal just world belief, and 2 = just world belief. Summary scores were derived by adding scores across narratives, yielding a scale ranging from 0 to 9 for marginal just world responses, and 0 to 18 for just world responses (see Petersen, 1983c, for a summary of pilot data for the Devaluation Questionnaire and Scoring Taxonomy).

The current form of the Devaluation Questionnaire was employed for the first time in piloting preceding this study. Interrater reliability for devaluing responses assessed by the Devaluation Questionnaire was established by having a second independent rater score the questionnaires of 10 college subjects. The interrater correlation for the presence of devaluing was .87. Further information on reliability for indices of the Devaluation Questionnaire is reported in the results section of this study.

Defining Issues Test (D.I.T.). To assess endorsement of principled moral reasoning, subjects completed The Defining Issues Test (Rest, 1974). This test requires subjects to read six complex ethical dilemmas. Following each dilemma, for each of 12 issues statements, subjects first rate on a 5-point scale the issue's importance in making a moral decision. Second, they select and rank the four most important issues. The P index is interpreted as the relative importance given to principled moral issues in making a moral decision (see Rest, 1979b, for the Revised Scoring Manual of the D.I.T.). Generally, test-retest reliabilities for the P index have been in the high .70s or .80s, while Cronbach's Alpha has been in the high .70s.

Just World Scale (J.W.S.). The Just World Scale (Rubin & Peplau, 1973) was administered to assess the belief in a just world. This scale consists of 20 items, 11 indicative of beliefs

in a just world, and 9 indicative of beliefs in an unjust world. For each item, subjects indicate the extent of their agreement or disagreement on a 6-point continuum. Scores are summed across items, yielding a scale ranging from 20 to 120 points. A score of 120 indicates complete affirmation of justness in the world. Rubin & Peplau (1975) have reported internal consistency reliability coefficients of .80 using Cronbach's Alpha and .81 using Kuder-Richardson's formula.

Attitudes Toward Disabled Persons Scale (A.T.D.P.). In order to obtain another index of attitudes toward the physically disabled, subjects completed the Attitudes Toward Disabled Persons Scale (Yuker, Block & Campbell, 1960). The A.T.D.P. (Form O) consists of 20 items whose wording refers to disabled persons in general. All items are weighted either positively or negatively. Students respond to each item along a continuum from -3, "I disagree very much," to +3, "I agree very much." After carrying out a scoring procedure involving several steps, total scores can range from 0 to 120 points (for details of scoring, see Yuker, et al., 1970). A relatively low score on the A.T.D.P. indicates that a respondent perceives disabled persons as different from non-disabled persons. A high score indicates that a respondent perceives disabled persons as similar to non-disabled persons. The median test-retest reliability coefficient for the A.T.D.P. (Form 0) is .73.

Equivalency reliability coefficients derived from the split-half method range from .75 to .85, parallel forms reliability coefficients range from .57 to .83, and the combined stability equivalency coefficients range from .41 to .83 with a median of .74.

Procedure

Four different pencil and paper measures were administered to small groups of five to ten students. High school students completed the questionnaires in the Media Center at the high school, while college students completed them in a university testing center.

The Devaluation Questionnaire was presented first. In addition to written directions, subjects were given a demonstration and verbal directions. The order of the three narratives in this questionnaire was counterbalanced among subjects. As each subject completed the first questionnaire, the form was collected and the subject was given three remaining questionnaires: (a) the Defining Issues Test, (b) the Just World Scale, and (c) the Attitudes Toward Disabled Persons Scale. Written directions were included in these questionnaires. The order of presentation of the Just World Scale and Defining Issues Test was counterbalanced. All subjects completed the Attitudes Toward Disabled Persons Scale last. The average total testing time was 1 hour and 15 minutes.

Results

Analyses were carried out in four steps. First, descriptive statistics for all dependent measures were computed across age groups as well as within age groups. Second, one-way analyses of variance were conducted to determine whether there were developmental differences on each dependent measure. Third, to examine the relation between dependent measures, correlational and multiple regression analyses were carried out both across and within age groups. And fourth, other specific analyses were performed, including: (a) a one-way analysis of variance to determine whether there were differences in devaluing responses between narratives, and (b) a reliability estimate and factor analysis to investigate psychometric properties of the Just World Scale.

Means and Standard Deviations by age level are given in Table 1 for the dependent variables assessed by the Devaluation Questionnaire: (a) devaluing responses (DEVAL), (b) normative assumptions (NA), (c) just world responses (JW), and (d) marginal just world responses (MJW). Means and Standard Deviations are also given in Table 1 for Scores on the: (a) Defining Issues Test (D.I.T.), (b) Just World Scale (J.W.S.), and (c) Attitudes Toward Disabled Persons Scale (A.T.D.P.).

Insert Table 1 about here

Interrater reliability for all responses assessed by the Devaluation Questionnaire was established by having a second independent rater score the questionnaires of 30 randomly selected subjects. Interrater correlations for the presence of any devaluing, for Type 1 devaluing, and for Type 2 devaluing, were .81, .83, and .97, respectively. The interrater correlation was .91 for normative assumptions. Interrater correlations for the presence of any just world responses (+2 or +1), for just world responses (+2), and for marginal just world responses (+1), were .81, .87, and .77, respectively.

Analyses of variance were conducted for each dependent measure, with age level as the independent variable. The main effect for age was significant for two dependent variables: P Scores, $F(2,117) = 13.05$, $p < .0001$, and number of just world responses to items on the Devaluation Questionnaire, $F(2,117) = 10.39$, $p < .0001$. College students endorsed moral principles at the postconventional level more frequently than high school seniors, who in turn, endorsed such principles more frequently than high school freshmen. Conversely, on the Devaluation Questionnaire, college students expressed less frequently than high school

seniors beliefs that persons with a disability or people in general deserve their fates or outcomes as a result of their own personality or actions, and high school seniors expressed fewer just world beliefs on the Devaluation questionnaire than high school freshmen. Students at three different ages did not vary in number of devaluing responses.

Results of multiple regression analyses within age groups indicated a strong relation between devaluing responses and P Scores on the D.I.T. In these analyses, P Scores, scores on the Just World Scale, and scores on the Attitudes Toward Disabled Persons Scale were entered as predictors of devaluing responses. The F values for each predictor and for all three predictors combined, and the R square values for all three predictors combined are presented in Table 2. An examination of Table 2 reveals that

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Insert Table 2 about here

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the three predictors accounted for 33% of the total variation in devaluing responses for high school freshmen, $F(3,36) = 5.84$, $p<.01$, and 22% of the total variation in devaluing responses for college students, $F(3,36) = 3.31$, $p<.05$. Multiple regression analyses yielded significant F values for the predictors of P Scores and scores on the A.T.D.P. for the high school freshman and college

groups (see Table 2). When multiple regression analyses with the same three predictors were conducted across age groups, no significant relations emerged.

Additionally, results of correlational analyses within age groups pointed to a strong relation between devaluing responses and P Scores. Pearson product-moment correlation coefficients between dependent measures are presented separately for high school freshmen, high school seniors, and college students in Table 3.

Insert Table 3 about here

As can be seen in rows 1, 2, and 3 of column 4, P Scores on the Defining Issues Test were related negatively to devaluing responses for the group of college students, $r(38) = -.34$, $p < .05$, and for the high school seniors, $r(38) = -.28$, $p < .10$. In contrast, P scores and devaluing responses were related positively for the group of high school freshmen, $r(38) = .47$, $p < .01$. P Scores on the D.I.T. were not related to devaluing responses for the total sample.

Results of multiple regression analyses and correlational analyses within age groups did not provide support for a positive relation between scores on the Just World Scale and frequency of devaluing responses. An examination of Table 2 reveals that scores on the Just World Scale did not yield significant F values at any

of the three age levels. Additionally, an examination of the first three rows of column 5 of Table 3 reveals that scores on the J.W.S. were not related significantly to devaluing responses for any of the three groups of students. When these same analyses were conducted across age groups, no significant relations emerged.

To examine the psychometric properties of the Just World Scale, a reliability estimate was obtained and a factor analysis was conducted. Using Cronbach's (1951) coefficient alpha, an internal consistency reliability estimate of .60 was obtained. A principal components factor analysis yielded nine different factors with weights ranging from 1.0 to 2.7. When Devaluation Questionnaire responses were examined for just world beliefs, the direction of the correlations between just world responses and devaluing responses within age groups was consistent with the relation found between P Scores and devaluing responses within age groups (see Table 3).

The Devaluation Questionnaire consisted of separate descriptions of three individuals who had acquired a physical or sensory handicap through accident or disease. To determine whether there were differences in devaluing responses due to the particular combination of individual, handicapping condition, and circumstances described in each hypothetical situation, a one-way analysis of variance was conducted with narrative as the independent variable.

The main effect for narrative was highly significant, $F(2,357) = 26.23$, $p < .0001$. Students varied in the extent to which they devalued an individual with a physical or sensory handicap as a function of the particular hypothetical situation presented.

The mean devaluing score was 1.89 for the narrative about Dawn (lung disorder), 1.59 for the narrative about Michael(hearing disability), and .94 for the narrative about Ruth (loss of a leg). Neuman-Keuls test for differences between means revealed each of the means to be significantly different at the .05 level. Scheffé's test indicated the mean devaluing scores for the narratives about Dawn (lung disorder) and Michael (hearing disability) were significantly different from the mean devaluing score for the narrative about Ruth (loss of a leg), $p < .05$. That is, students devalued Dawn, a female who had acquired a lung disorder, and Michael, a male who had acquired a hearing loss, to a greater extent than Ruth, a female who had lost a leg.

Discussion

The first purpose of this study was to determine if persons at different ages vary in the extent to which they devalue individuals with a physical or sensory handicap. The results did not provide support for the hypothesis that the frequency of devaluing responses is greater among younger than older subjects. The obtained differences in devaluing responses among high school freshmen, high

school seniors, and college students were not consistent with age trends that have been found with attitudinal measures employing objective response formats.

In interpreting this finding, the reader must keep in mind that the Devaluation Questionnaire required subjects to make free responses as well as rating responses to questions about each of three different individuals who had acquired a physical or sensory disability. By eliciting action choices in regard to hypothetical individuals, the Devaluation Questionnaire may be measuring more than the rating component of attitudes, the component that has been emphasized by other researchers (e.g., Yuker et al., 1970). In this study, when students' attitudes were assessed with the A.T.D.P., a Likert scale that measures general attitudes toward the disabled as a group, the means by age level were ordered in the expected direction. College students scored higher on the A.T.D.P. than high school seniors who, in turn, scored higher than high school freshmen. Thus, for the present sample age trends for attitudes assessed by the A.T.D.P. were consistent with age trends found by Ryan (1981) and Yuker et al. (1970).

Significant differences were found between the three age groups for P Scores from the Defining Issues Test. Obtained differences were consistent with evidence from cross-sectional and longitudinal studies which have found a positive relation between moral judgment

and age for persons who have not completed their education (Rest, 1979a, 1983).

In addition to differences in P Scores, significant age differences were found on just world responses assessed by the Devaluation Questionnaire. This finding is noteworthy for two reasons. First, researchers who have investigated the belief in a just world by focusing on observers' reactions to innocent victims have employed either college students and adults in their studies (summarized in Lerner, 1980, and Lerner & Miller, 1978) or young children, usually 9 and 10 years old (Braband & Lerner, 1975; Long & Lerner, 1974; Stein, 1973; Suls & Gutkin, 1976). Developmental studies have not been conducted, and researchers have not employed junior and senior high school students as observers in studies involving innocent victims.

Second, most researchers who have investigated beliefs in a just world have not used disabled individuals (hypothetical or real-life) as innocent victims in their studies. However, results from this study indicate that disabled individuals represent innocent victims; they pose a threat to belief in a just world. Descriptions of such persons elicited just world responses as well as devaluing responses from subjects. The use of hypothetical disabled individuals as innocent victims may be a more realistic means to investigate belief in a just world than, for example, the use of individuals who have been administered electric shocks in experimental situations.

Results of multiple regression analyses within age groups indicated a strong relation between devaluing responses and P Scores on the D.I.T. The substantial amount of variation in devaluing responses accounted for by P Scores within two of the three age groups represents a stronger relation between a moral judgment measure and an attitude measure than has usually been found (Rest, 1983). However, results support the claims of other researchers that the link between moral judgment and attitudes can only be strong when the relation is analyzed logically. That is, a relation between moral judgment and relevant attitudes will emerge only when a particular moral stage scheme leads logically to certain attitudes within a certain situation while another stage scheme leads to other attitudes within that situation (Rest, 1983).

Results from regression analyses that both P Scores and A.T.D.P. scores were related strongly to frequency of devaluing responses offer further support for the notion that the Devaluation Questionnaire is measuring more than the rating component, or general knowledge of attitudes toward the disabled as a group. The Devaluation Questionnaire may provide a means by which new information can be obtained about the nature of attitudes held by the nondisabled toward the disabled--knowledge that is difficult to obtain from objective format instruments.

Although correlational analyses offered support for a strong relation between devaluing responses and P Scores within all age groups, the hypothesized negative relation between these two dependent measures occurred only within the college and senior high school groups. Thus, prerequisite role-taking abilities which differentiate those who assign relatively more importance to principled moral reasons from those who assign less importance to such reasons (Rest, 1983), may explain findings for the two older student groups, but not for the youngest student group. That is, college and senior high school students who endorsed reasons predominantly at the principled level and who realized the relativity of perspectives held by themselves and their social group devalued individuals with a physical or sensory disability to a lesser extent than students who endorsed reasons predominantly at the advanced conventional level and who relied on a duty-oriented tendency to uphold their particular group's perspective (Kohlberg, 1976). This latter "system" perspective, upheld by individuals who reason primarily at Stage Four, most likely consists of negative stereotypes about the physically disabled--negative attitudes that are prevalent in our society and in many different groups within our society.

To understand the finding of a significant positive relation rather than a negative relation between P Scores and devaluing

responses within the high school freshman group, the level of moral reasoning that generally characterizes each age group needs to be examined. Most adolescents and adults in our society and in other societies reason primarily at the conventional level. The postconventional level is reached by a minority of adults and is usually reached only after the age of 20 (Kohlberg, 1976). So, although few students in the college and high school senior groups are at the postconventional level, the average P Scores obtained in these groups were 20.30 and 17.28, respectively (comparable approximately to P% Scores of 34% and 29%, respectively). In contrast, within the high school freshman group, the average P Score was 12.86 (comparable to a P% Score of 21%). Since most adolescents reason primarily at the conventional level, it follows that more importance was assigned to conventional moral reasons within the freshman group, including reasons both at Stage Three and Stage Four. The Stage Three perspective is that of the average "good" person, rather than that of society or an institution as a whole (Kohlberg, 1976). Since those who reason predominately at Stage Three depend on face-to-face encounters to interpret social cues and messages from others and do not yet consider the generalized system perspective, a perspective which may be negative in regard to the physically disabled, they may hold more positive attitudes toward the disabled and may not devalue them as much as those who are reasoning primarily at Stage Four.

Results of correlational analyses and multiple regression analyses both across and within age groups did not provide support for the third hypothesis, that the frequency of devaluing responses is related positively to scores on the Just World Scale. These results appear to reflect psychometric limitations of the Just World Scale, rather than the absence of a relation between the extent to which a person devalues an individual with a physical disability and the degree to which a person believes in a just world. The Just World Scale was included in this study since no other questionnaires exist for measuring the belief in a just world.

An investigation of the reliability and the construct validity of the Just World Scale revealed psychometric weaknesses in the scale. First, the obtained reliability estimate of .60 is a relatively low estimate of internal consistency, particularly for an instrument that has been used by a number of researchers over a 10-year period (Miller, 1977; Rubin & Peplau, 1973, 1975; Weisz, 1980; Zuckerman, 1975; Zuckerman et al., 1975).

Second, the construct validity of the Just World Scale is questionable. A principle factor analysis using Kaiser's (1960) rule as the criterion of the number of factors to be extracted yielded nine different factors. Although the construct of belief in a just world may be a meaningful one, it appears that the Just World Scale measures much more than this belief. Two plausible

explanations for the confounding of belief in a just world with other attitudes and beliefs are that (a) items refer to whether people deserve rewards as well as punishments, and (b) items require respondents to infer outcomes or fates from a person's character and actions as well as to infer a person's character and actions from outcomes or fates.

Results of correlational analyses within age groups offered support for the potential usefulness of a different approach to measuring belief in a just world. When just world beliefs were assessed by the Devaluation Questionnaire, i.e., when respondents were presented with descriptions of individuals with disabilities and were asked to make inferences about their personality characteristics and actions, clearer patterns of relations emerged between just world and devaluing responses than when belief in a just world was measured with the Just World Scale.

Results indicated that students varied in the extent to which they devalued a hypothetical individual with a physical or sensory disability as a function of the particular individual, handicapping condition, and circumstances described. The reader must be cautioned against interpreting obtained differences in devaluing responses as a result of the handicapping condition involved. Not only did the handicapping condition differ among the three naratives,

but other factors varied as well, including the sex of the handicapped individual and the circumstances described in each narrative.

In summary, the present results indicated that exploration of attitudes toward individuals with a disability can be reliably examined in a format which allows for complex, subject-generated responses. Additionally, relevant measures of social cognitive variables and general attitude variables accounted for substantial amounts of variability in frequency of devaluing responses. The failure to find a relation between devaluing responses and a social psychological variable, belief in a just world, appeared to be due to psychometric weaknesses in the Just World Scale. Finally, results indicated that frequency of devaluing responses to descriptions of individuals (hypothetical) with a disability varied depending on the particular combination of individual, handicapping condition, and circumstances described. By finding relations between devaluing responses, moral reasoning, and attitudes toward the disabled, and by finding significant differences in frequency of devaluing responses as a function of details presented about a particular handicapping condition, the Devaluation Questionnaire represents a means by which knowledge can be obtained to better understand the nature of attitudes held toward the disabled.

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Table 1

Means and Standard Deviations by Age Level for Indices of the Devaluation Questionnaire, Defining Issues Test, Just World Scale, and Attitudes Toward Disabled Persons Scale

Student Group		DEVAL[a]	NA[a]	JW[a]	MJW[b]	D.I.T.[c]	J.W.S.[d]	A.T.D.P.[e]
High School Freshmen	$\bar{X}$	4.35	1.65	4.60	.58	12.86	73.66	67.65
($\bar{X}$ age = 14)	SD	2.11	1.14	2.69	.93	5.14	7.47	13.57
High School Seniors	$\bar{X}$	4.03	1.35	2.55	.48	17.20	75.58	72.75
($\bar{X}$ age = 17)	SD	2.43	.86	2.90	.72	6.06	7.88	15.18
College Students	$\bar{X}$	4.90	1.55	1.95	.65	20.30	72.05	73.90
($\bar{X}$ age = 20)	SD	1.68	.88	2.58	.95	8.10	9.17	15.70

Note. N = 120; ns = 40.

[a]Measured by the Devaluation Questionnaire: range of scale 0 (low) to 18.

[b]Measured by the Devaluation Questionnaire: range of scale 0 (low) to 9.

[c]P Scores on the Defining Issues Test (Rest, 1974).

[d]Range of scale 20 to 120 (Rubin & Peplau, 1973).

[e]Range of scale 0 to 120 (Yuker, Block, & Campbell, 1960).

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Table 2

Regression Analyses of Devaluing Responses with P Scores, Scores on the Just World Scale, and Scores on the Attitudes Toward Disabled Persons Scale by Age Group

Source	df	F	R^2
College Students			
P Score	1	4.23**	—
J.W.S.	1	.40	—
A.T.D.P.	1	4.32**	--
All 3 Predictors	3	3.31**	.22
Error	36	--	--
Total	39	--	--
High School Seniors			
P Score	1	1.86	--
J.W.S.	1	1.61	--
A.T.D.P.	1	1.91	--
All 3 Predictors	3	1.91	.14
Error	36	--	--
Total	39	--	--
High School Freshmen			
P Score	1	11.62***	--
J.W.S.	1	1.69	--
A.T.D.P.	1	3.28*	--
All 3 Predictors	3	5.84***	.33
Error	36	--	--
Total	39	--	--

Note. ns = 40

*p < .10.

**p < .05.

***p < .01.

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Table 3

Intercorrelations by Age Level Between Indices on the Devaluation Questionnaire, Defining Issues Test, Just World Scale, and Attitudes Toward Disabled Persons Scale

		NA	JW	MJW	D.I.T.	J.W.S.	A.T.D.P.
	College	-.08	.25	-.10	-.34**	-.10	-.33**
DEVAL	High School Seniors	.08	.16	.17	-.28*	.08	-.23
	High School Freshmen	.25	-.16	.21	.47***	.22	-.27*
	College		.04	-.35**	-.05	-.01	-.15
NA	High School Seniors		.25	-.07	-.31**	-.51***	-.37**
	High School Freshmen		-.20	.19	.24	.15	-.10
	College			-.15	.02	.11	-.32**
JW	High School Seniors			.02	-.13	.06	.09
	High School Freshmen			-.20	-.09	-.11	.05
	College				-.10	-.02	-.15
MJW	High School Seniors				-.11	.12	-.18
	High School Freshmen				.15	.07	-.36***
	College					.07	.10
D.I.T.	High School Seniors					.11	.32**
	High School Freshmen					.04	.00
	College						-.06
J.W.S.	High School Seniors						.45***
	High School Freshmen						-.10

Note. N = 120; ns = 40. Measures are described in Table 1.

*p < .10.

**p < .05.

***p < .01.

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